

Patent
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(prev 269/132)

AMENDMENTS TO THE CLAIMS:

The listing of claims shown below will replace all prior versions, and listings, of claims in the Application:

1. (Amended) A Micro-Electro-Mechanical System apparatus, comprising:

a substrate;

a passivation layer on the substrate, the passivation layer having a top surface; and

a microstructure suspended above the substrate, the microstructure having a bottom

surface facing the top surface of the passivation layer, the microstructure being moveable toward the passivation layer;

wherein the passivation layer is patterned to form a plurality of spaced protuberances .

2. (Previously Cancelled)

3. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 1, wherein the bottom surface of the microstructure is substantially flat.

4. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 1, wherein at least one of the protuberances has a square cross section.

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fig. 3B
5. (Previously Presented) The Micro-Electro-Mechanical System apparatus
of claim 1, wherein at least one of the protuberances has a rectangular cross section.

fig. 3C
6. (Previously Presented) The Micro-Electro-Mechanical System apparatus
of claim 1, wherein at least one of the protuberances has a hexagonal cross section.

C1
Cont.
figs. 3D, 3E
7. (Previously Presented) The Micro-Electro-Mechanical System apparatus
of claim 1, wherein the passivation layer is patterned to form a mesh.

8. (Previously Presented) The Micro-Electro-Mechanical System apparatus
of claim 7, wherein the bottom surface of the microstructure is substantially flat.

fig. 3E
9. (Previously Presented) The Micro-Electro-Mechanical System apparatus
of claim 7, wherein the mesh is a square mesh.

fig. 3D
10. (Previously Presented) The Micro-Electro-Mechanical System apparatus
of claim 7, wherein the mesh is a hexagonal mesh.

11. (Previously Presented) The Micro-Electro-Mechanical System apparatus
of claim 1, wherein the passivation layer comprises polyimide.

12. (Previously Presented) The Micro-Electro-Mechanical System apparatus

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of claim 1, wherein the passivation layer comprises silicon nitride.

13. (Amended) A Micro-Electro-Mechanical System apparatus, comprising:

a substrate;

a passivation layer on the substrate, the passivation layer having a top surface;

a support attached to the substrate; and

a beam attached at one end to the support and suspended above the substrate, the

beam having a bottom surface facing the top surface of the passivation layer, the beam
being moveable toward the passivation layer;

wherein the passivation layer is patterned to form a plurality of spaced
protuberances .

14. (Previously Presented) The Micro-Electro-Mechanical System apparatus

of claim 13, further comprising a second support attached to the substrate and wherein the
beam is attached to the second support at a second end.

15. (Previously Presented) The Micro-Electro-Mechanical System apparatus

of claim 13, further comprising a bottom electrode on the substrate and underneath the
bottom surface of the beam.

16. (Previously Cancelled)

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17. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein the bottom surface of the beam is substantially flat.

fig. 3A
18. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein at least one of the protuberances has a square cross section.

C1
Cont. fig. 3B
19. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein at least one of the protuberances has a rectangular cross section.

fig. 3C
20. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein at least one of the protuberances has a hexagonal cross section.

figs. 3D, 3E
21. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein the passivation layer is patterned to form a mesh.

22. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 21, wherein the bottom surface of the beam is substantially flat.

fig. 3E
23. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 21, wherein the mesh is a square mesh.

fig. 3F
24. (Previously Presented) The Micro-Electro-Mechanical System apparatus

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of claim 21, wherein the mesh is a hexagonal mesh.

25. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein the passivation layer comprises polyimide.

C1
Cont. 26. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein the passivation layer comprises silicon nitride.

Claims 27-38 (Previously Cancelled)

39. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 1, wherein the passivation layer is made of a dielectric material selected from the group consisting of silicon oxide, strontium titanate oxide, barium strontium titanate, and benzocyclobutene.

40. (Previously Presented) The Micro-Electro-Mechanical System apparatus of claim 13, wherein the passivation layer is made of a dielectric material selected from the group consisting of silicon oxide, strontium titanate oxide, barium strontium titanate, and benzocyclobutene.